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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------------------|------------------|
| 10/025,423 | 12/18/2001 | Ronald N. Zuckermann | 16141.003 | 6469 |
| 7590 | 02/08/2005 | | EXAMINER WESSENDORF, TERESA D | |
| Attn: David P. Lentini Chiron Corporation P. O. Box 8097 Emeryville, CA 94608 | | | ART UNIT | PAPER NUMBER |
| | | | 1639 | |

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/025,423 | | ZUCKERMANN ET AL. | |
| | Examiner | | Art Unit | |
| | T. D. Wessendorf | | 1639 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-17,21 and 24-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-17,21 and 24-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Arguments

Appellants' arguments in the Appeal Brief are acknowledged. However, in view of the newly found art, PROSECUTION IS HEREBY REOPENED. To avoid abandonment of the application, appellants must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 13-17, 21 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy(PNAS) in view of Liotta (USP 6153596).

Murphy et al discloses at page 1517, col. 1 and col. 2 and page 1518, RESULTS section heading up to page 1522, a method of identifying transfection peptoids comprising screening a diverse library of cationic N-substituted glycine peptoids oligomer of varying chain length (library of peptoids, as claimed). The peptoids is then complexed with DNA, transfecting cells lines such as the tumor cell lines NIH3T3, HT 1080 and COS cells with the peptoid-DNA complex. The N-terminal modified peptoids (i.e., peptoid-lipid conjugate) is shown at Table 1 and 2, page 1519. Screening for those peptoids that mediated transfection of the cell lines are shown in Fig. 5, page 1521. The peptoids that transfected the cells are identified at page 1521, col. 1 and col. 2. Murphy does not disclose an oligonucleotide as being transfected by the peptoids to the cell. However, Liotta discloses at col. 7, lines 54 up to col. 8, 4 a method of transfecting antisense oligonucleotide or nucleic acids by peptoides into cells including therapeutic application of transfection methods to gene therapy and diagnostic methods. The used of the oligonucleotide-peptoid results in improved transfection of the nucleic acid to different cells. Liotta

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further discloses at col. 18, lines 3-68 the introduction of antisense oligonucleotide which is typically nucleic acids with less than about 50 bases and between about 15-35 bases. The complex is more stable with improved charge neutralization of the nucleic acid by the peptoid. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the DNA in the transfection method of Murphy with oligonucleotide as taught by Liotta. The use of oligonucleotide provides for the improved transfection of nucleic acid into cells as the complex is more stable with better charge neutralization. This improvement would provide the motivation to one having ordinary skill in the art to make the modification.

Claim 14 is obvious in view of the disclosure of Murphy as to the use robotic synthesizer, page 1517, col. 2.

Claim 26 is obvious in view of the teachings of Liotta as to the advantage in the use of sterol as a side group e.g., sterol tethered in the peptoid chain. See col. 12, lines 20-30 and col. 16, lines 29-39.

No claim is allowed.

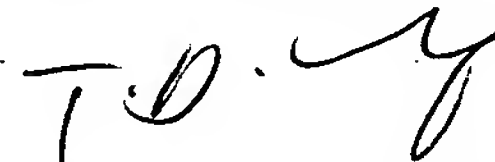
Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. D.

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Wessendorf whose telephone number is (571) 272-0812. The examiner can normally be reached on Flexitime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


T. D. Wessendorf
Primary Examiner
Art Unit 1639

Tdw
February 4, 2005